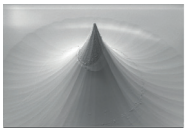


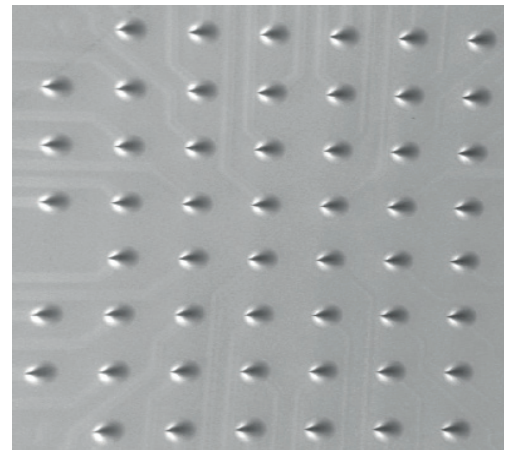
60-3DMEA

60-3DMEA100/12/40iR-Ti, 60-3DMEA200/12/50iR-Ti
60-3DMEA200/12/80iR-Ti, 60-3DMEA250/12/100iR-Ti

Layout



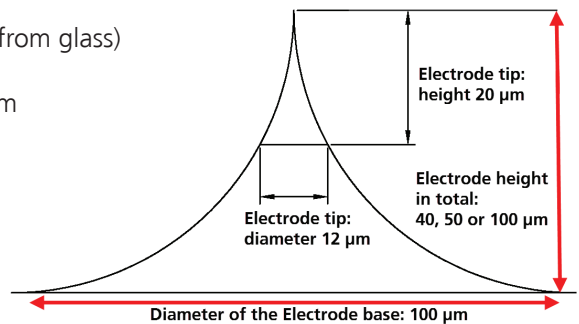
Warning:
The tips of the electrodes are fragile.
Please avoid mechanical stress when mounting or removing a slice.



3D Structure

Technical Specifications

Temperature compatibility	0 - 125 °C
Dimensions (W x D x H)	49 mm x 49 mm x 1 mm
Base material	Glass
Track material	Ti (Titanium)
Contact pads	TiN (Titanium nitride)
Electrode diameter	12 µm
Electrode height in total	40, 50, 80 or 100 µm (etched from glass)
Electrode base diameter	100 µm
Electrode tip diameter	12 µm, height: 20 µm
Interelectrode distance (center to center)	100 µm, 200 µm or 250 µm
Electrode material	TiN (Titanium nitride)
Isolation material	Silicon nitride (SiN)
Electrode impedance	150 kΩ
Electrode layout grid	8 x 8
Number of recording electrodes	59
Number of reference electrodes	1 internal reference electrode (iR)
Software	
Multi Channel Experimenter	MEA Configuration
MC_Rack	2 dim. (MEA) or Configuration



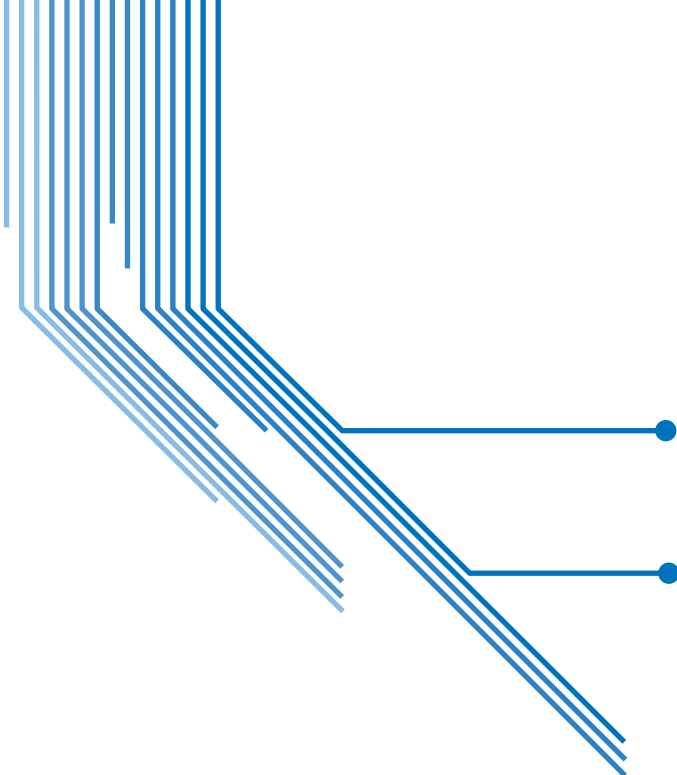
Advantages

- The 3D structure is particularly well suited for acute tissue slice preparations.
- The tip-shaped electrodes are able to penetrate through the initial outer dead cell layer arising from the slice preparation process.
- The 3D electrodes also allow more efficient electrical stimulation of the cells.

MEA Perfusion Chamber

- (w/o) Without ring
- (gr) Glass ring ID +/- 19 mm, OD +/- 24 mm, height 6 / 12 mm
- (pr) Plastic ring without thread ID 26.5 mm, OD 30 mm, height 6 / 15 mm
- (pr-T) Plastic ring with thread ID 26 mm, OD 30 mm, height 6 / 15 mm

November 2019

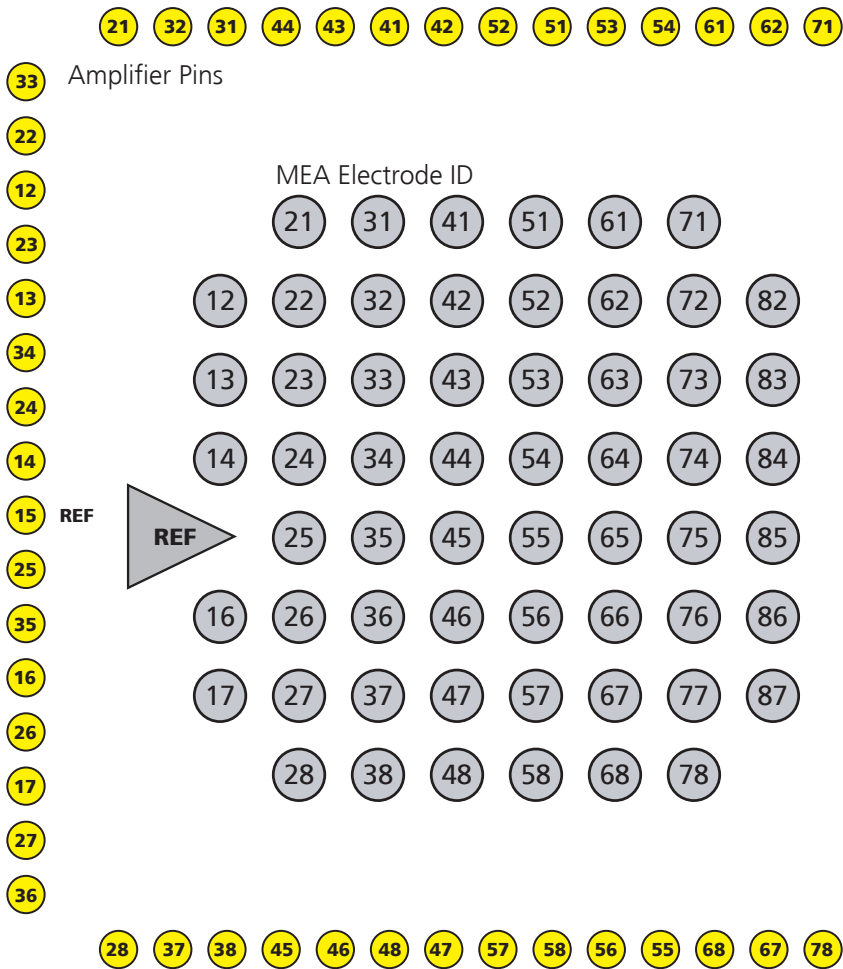


60-3DMEA

60-3DMEA100/12/40iR-Ti, 60-3DMEA200/12/50iR-Ti
60-3DMEA200/12/80iR-Ti, 60-3DMEA250/12/100iR-Ti

Layout

MEAs are not symmetrical!
MEAs with internal reference electrode should be placed with reference electrode to the left side when looking directly to the opened amplifier.



Numbering

The numbering of MEA electrodes in the 8 x 8 grid follows the standard numbering scheme for square grids: The first digit is the column number, and the second digit is the row number. For example, electrode 23 is positioned in the third row of the second column.

Note of the Manufacturer

Due to the delicate etching process involved in 3D electrode production, 60-3DMEAs with one high impedance electrode are still considered top quality.

The MEA Electrode IDs are the channel numbers that are used in the data acquisition program. When using MC_Rack software, please select the 2 dimensional layout (or Configuration) in the "Data Source Setup". Electrode 15 is missing in MEAs. It is replaced by a big internal reference electrode, connected to pin 15 of the amplifier.